

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: : Date:  
Kiran K. Gullapalli : Attorney Docket No.: SC12003TS  
Serial No.: : Art Unit:  
Filing Date: : Examiner: Unassigned  
For: METHOD AND APPARATUS FOR DISTORTION ANALYSIS IN NONLINEAR  
CIRCUITS

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SIR:

In accordance with 37 C.F.R. §1.56 and in compliance with 37 C.F.R. §§1.97 and 1.98, the references listed on attached Form PTO/SB/08 and/or subsequently identified herein, are being submitted herewith for consideration by the United States Patent and Trademark Office.

I. COPIES

- a. ☒ A legible copy of (i) each U.S. and foreign patents; (ii) each publication or that portion which caused it to be listed; and (iii) all other information or that portion which caused it to be listed, is included herewith.
- b. ☐ Any patents, publications or other information which are listed on PTO/SB/08 which are not enclosed herewith were previously cited by or submitted to the PTO in one of the following applications which has been relied upon for an earlier filing date under 35 U.S.C. §120:

U.S. Serial Number

U.S. Filing Date

II. CONCISE EXPLANATION OF THE RELEVANCE (check at least one box)

- a. ☒ Except as may be indicated below in (b) of this section, all of the patents, publications or other information are in the English language (concise explanation not required). English abstracts are being submitted for references AC and AD

c. ☐ The following additional information is provided for the Examiner's consideration:

III. ☐ CROSS REFERENCE TO RELATED APPLICATION(S)

The Examiner is advised that the following co-pending application(s) contain(s) subject matter that may be related to the present application. By bringing this (these) applications to the Examiner's attention, Applicant(s) does(do) not waive the confidentiality provisions of 35 U.S.C. §122.

Serial No.

Filing Date

Art Unit

**FEES**

IV. ☒ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(b): (check one box)

- a. ☒ within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d) (37 C.F.R. §1.97(b)(1)). No fee or statement is required.
- b. ☐ within three months of the date of entry of the national stage as set forth in § 1.491 in an international application (37 C.F.R. §1.97(b)(2)). No fee or statement is required.
- c. ☐ before the mailing date of a first Office Action on the merits (37 C.F.R. §1.97(b)(3)). No fee or statement is required.
- d. ☐ before the mailing date of a first Office Action after the filing of a request for continued examination under § 1.114 (37 C.F.R. § 1.97(b)(4)). No fee or statement is required.

V. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(c): (check one box)

before the mailing date of either a Final Office Action under 37 C.F.R. §1.113 (See 37 C.F.R. §1.97(c)), or a Notice of Allowance under 37 C.F.R. §1.311 (See 37 C.F.R. §1.97(c)).

- a. ☐ No statement; therefore, charge deposit account 13-4771 the fee set forth in 37 C.F.R. §1.17(p).
- b. ☐ See the statement below. No fee is required.

VI. ☐ THIS IDS IS BEING FILED UNDER 37 C.F.R. §1.97(d):

on or before payment of the issue fee and is accompanied by the following:

- 1) a statement under 37 C.F.R. §1.97(e) as provided below;

- 3) charge deposit account 13-4771 the petition fee set forth in §1.17(i).

VII. Statement under 37 C.F.R. §1.97(e) (check only one box, if applicable)

The undersigned hereby states that

- a. ☐ each item of information contained in the IDS was cited in a communication from a foreign Patent Office is a counterpart foreign application not more than three months prior to the filing of IDS; or
- b. ☐ no item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application, and to knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement, or
- c. ☐ some of the items of information contained in the IDS were cited in a communication from a foreign Patent Office. As to this information, the undersigned states that each item of information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application not more than three months prior to the filing of this IDS. As to the remaining information, the undersigned hereby states that no item of this remaining information contained in the IDS was cited in a communication from a foreign Patent Office in a counterpart foreign application or, to the knowledge of the person signing the statement after making reasonable inquiry, no item of information contained in the IDS was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement.

VIII. PAYMENT OF FEES

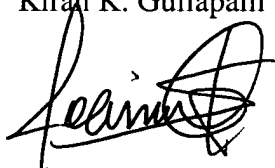
- ☐ A check in the amount of \_\_\_\_\_ is enclosed for the above-identified fee(s).
- ☐ Please charge Deposit Account No. 502117 in the amount of \$180.00 for the above-indicated fee(s).
- ☒ If Applicant has overlooked any additional fees, or if any overpayment has been made, the Commissioner is hereby authorized to credit or debit Deposit Account 502117.
- ☐ Two Copies of this paper are attached for Deposit Account charges and debits.

It is Applicants' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain

It is Applicants' opinion that the claims presently on file patently distinguish the present invention from each of these references. The above references are being cited only in the interests of candor and without any admission that they constitute statutory prior art or contain matter which anticipates the invention or which would render the same obvious, either singly or in a combination, to a person of ordinary skill in the art.

If the Examiner has any questions concerning this IDS, he/she is requested to contact the undersigned. If it is determined that this IDS has been filed under the wrong rule, the PTO is requested to consider this IDS under the proper rule (with a petition if necessary) and charge the appropriate fee to Deposit Account No. 502117.

Respectfully submitted,  
Kiran K. Gullapalli



Joanna G. Chiu  
Attorney for Applicant(s)  
Reg. No. 43,629  
Tel. (512) 996-6839

MOTOROLA, INC.  
Customer Number 23125 Motorola Inc.

Enclosures:	<input checked="" type="checkbox"/>	PTO/SB/08
	<input checked="" type="checkbox"/>	10 References (AA-AJ)
	<input checked="" type="checkbox"/>	Foreign Search Report
	<input type="checkbox"/>	Other:



Please type a plus sign (+) inside this box. FORM PTO/SB/08

<b>Substitute for form 1449A/PTO</b>  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  (use as many sheets as necessary)				<b>Complete if Known</b>		
				<b>Application Number</b>		
				<b>Filing Date</b>		
				<b>First Named Inventor</b> Kiran K. Gullapalli		
				<b>Group Art Unit</b>		
<b>Examiner Name</b>				<b>Attorney Docket Number</b> SC12003TS		
Sheet	1	of	1			

U. S. PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number Code <sup>2</sup>	Kind (if known)			
	AA	6,031,986		Milsom	02-29-2000	
	AB	6,253,359		Cano et al.	06-26-2001	

FOREIGN PATENT DOCUMENTS								
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document			Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>5</sup>
		Office Code <sup>2</sup>	Number <sup>4</sup>	Kind (if known)				
	AC	RU	2168735			10-06-2001	Abstract	
	AD	RU	93049136			10-08-1996	Abstract	

OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T <sup>2</sup>
	AE	SANSEN, Willy; “Distortion in Elementary Transistor Circuits”; IEEE Transactions of Circuits and Systems-II: Analog and Digital Signal Processing; March, 1999; pp 315-325; Vol. 46, No. 3; IEEE		
	AF	FENG, Dan et al.; “Efficient Computation of Quasi-periodic Circuit Operating Conditions Via a Mixed Frequency/Time Approach”; Proceeding of the 36 <sup>th</sup> Design Automation Conference; June 21-25, 1999; p 635-640; IEEE		
	AG	CHEN, Jess et al.’ “Simulation and Modeling of Intermodulation Distortion in Communication Circuits”; Proceedings of IEEE 1999 Custom Integrated Circuits Conference; May 16-19, 1999; pp 5-8; IEEE		
	AH	NARAYANAN, S.; “Transistor Distortion Analysis Using Volterra Series Representation”; Bell System Technical Journal; May-June, 1997; Bell Systems		
	AI	MAAS, Stephen A.; “Nonlinear Microwave Circuits”; 1997, pp 155-207; ISBN 0-7803-3403-5; IEEE Press		
	AJ	CHISHOLM, Stephen H. et al.; “Efficient Computer Simulation of Distortion in Electronic Circuits”; IEEE Transaction on Circuit Theory; November, 1973; pp742-745; IEEE		

Examiner Signature	Date Considered
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EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation, if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup> Unique citation designation number. <sup>2</sup> See Kinds of U.S. Patent Documents. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. <sup>6</sup> Applicant is to place a check mark here if English Language Translation is attached.